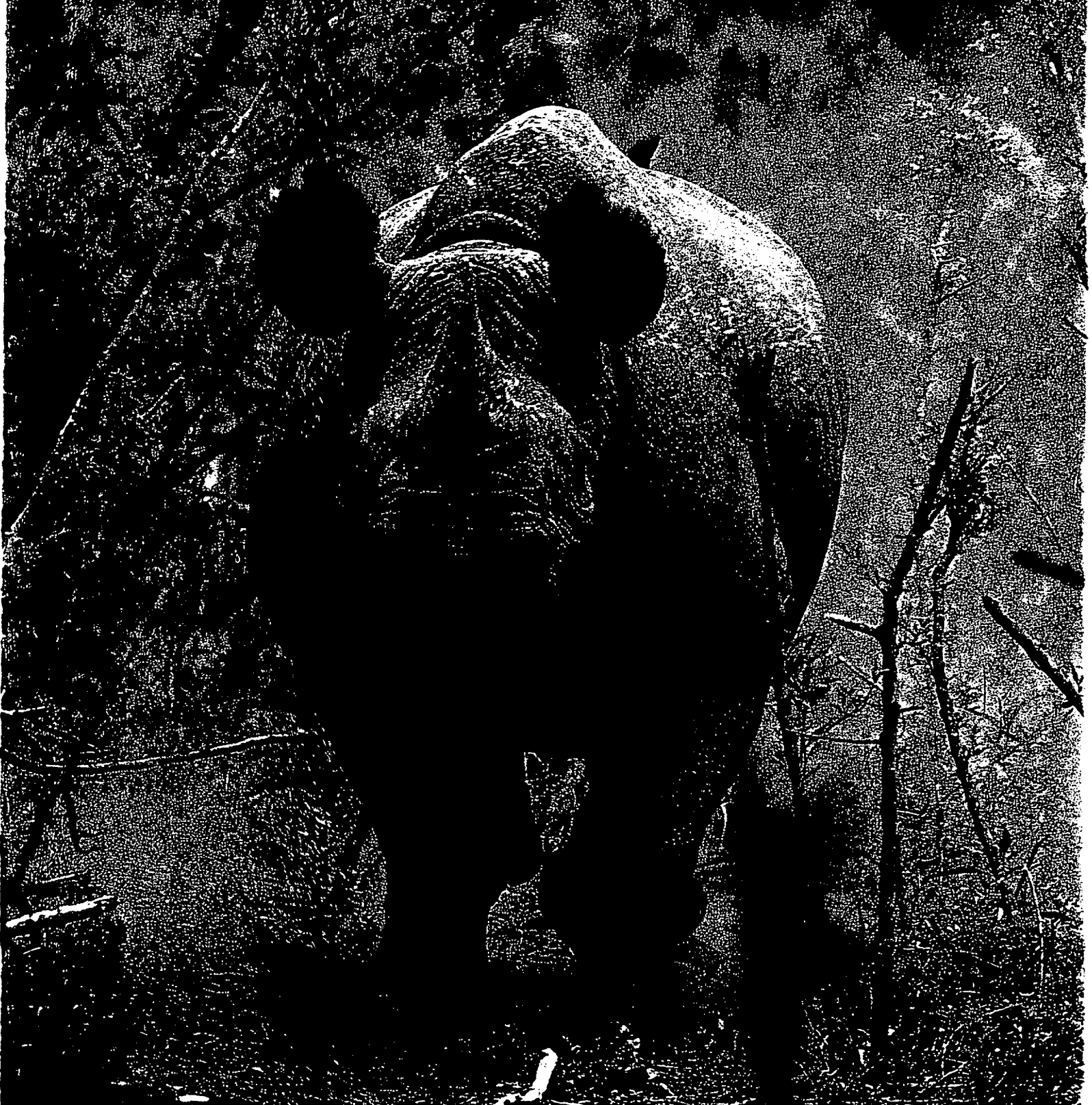


JACKSON, P.  
1987

# International WILDLIFE

JANUARY-FEBRUARY 1987

PUBLISHED BY THE NATIONAL WILDLIFE FEDERATION



# International WILDLIFE®

Volume 17, Number 1

January-February 1987

## Rhinos and Flamingos: Man at His Worst—and Best

MOST OF THE WORLD'S endangered animals are in trouble because they're running out of living space. But the five species of rhinos face a different danger. They're being killed by poachers for their coveted horns. (See page 4.)

A generation ago, there were 100,000 rhinos on planet Earth. Today, only 11,000. Will there be any left in the wild in another generation?

The problem is that, contrary to Western scientific opinion, many Asians think the horns possess magical medicinal qualities. Horns are also sought for use as carved dagger handles. With demand so high, some people are willing to supply the illegal market. The resulting assault on rhinos illustrates a dark side of human nature.

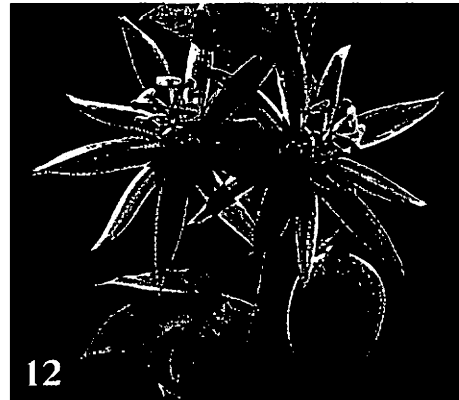
But there's a brighter side, too, and in the Bahamas, a colony of the greater flamingo shows man's nobler instincts. There on a remote island, one family has managed to safeguard the largest breeding flock in the Western Hemisphere. In just 35 years, the birds have increased in number from 1,000 to 40,000. (See page 46.)

Both stories are fascinating chronicles of human impact on the other creatures on Earth. They show how our species has the capacity to destroy wildlife—and to save it.

  
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A 71-year-old Bahamian named Jimmy Nixon tends the Caribbean's largest colony of the elegant pink birds

### ABOUT OUR COVERS

**Front:** Having just been transported and released into South Africa's Kruger National Park, this black rhino charged photographer Anthony Bannister. Filming wildlife can be a dangerous occupation, but in this case, the huge beast braked to a stop. Result: a dramatic picture and an unharmed photographer. Bannister used a Nikon F3 camera, 180mm Nikkor lens and Kodachrome 64 film. For more on rhinos, see page 4.

**Back:** The four-spotted wrasse is a curious fish which seems undaunted by people and will often follow closely behind divers. Shooting in the Red Sea off the tip of Egypt's Sinai Peninsula, Jeff Rotman (Peter Arnold) photographed this colorful specimen at a depth of 30 feet. He used a Nikon F2 camera, 55mm Micro Nikkor lens with subsea flash and Kodachrome 64 film.

# THE RHINO'S FATAL FLAW

*Lust for horns may prevent the world's five living species from surviving into the next century*

6653

By Peter Jackson

**Z**AMBESI RIVER VALLEY, ZIMBABWE: A fusillade of shots shattered the mid-morning stillness of the bush. Two park rangers staking out the area around a water hole spotted the bloody trail of a dying rhino and the footprints of two poachers. The deep thud of knives against horn masked the approach of the rangers, who tiptoed to within 15 yards of the unsuspecting hunters and opened fire without warning. One poacher fell dead. The second panicked, scuttled behind the rhino and harmlessly

emptied a 30-clip magazine on full automatic from his AK-47 assault rifle. The rangers circled the clearing and shot the second poacher dead through the splayed back legs of the fallen animal. "They are the enemy," said scout David Cipesi proudly, "and we destroyed them."

SAVANNA BELOW MOUNT KENYA: As the helicopter swooped and hovered like a dragonfly over the thorn trees, a man leaned out and fired a tranquilizer dart. A rhino shot out of the bush, followed

by a wildly bouncing jeep. Soon after the rhino collapsed, a veterinarian jumped out and injected the creature in the rump and ear to neutralize the tranquilizer and prevent a life-threatening fever. The team carefully rolled the one-ton animal onto a pallet and dragged it up a ramp onto a truck. From there it was taken to a stockade, then transferred to Nairobi National Park, where guards keep poachers at bay.

UJONG KULON, JAVA, INDONESIA: Five carcasses of Javan rhinos—a tenth of the species' entire population—lay on the jungle floor. After an investigation, horrified officials suspected anthrax. Although no animals have died since, the officials fear that disease could wipe out the Javan rhino, which, after centuries of poaching, apparently exists nowhere but in this one small reserve.

In both Africa and Asia, scenes of violence and desperate management re-

flect the tragic state of the rhino today. A bizarre web of international economics and politics—including cyclical world oil prices and well-armed guerrilla movements—have conspired against one of the world's most magnificent animals. Within the past 15 years, heavily armed outlaws have engaged in an orgy of poaching. Even where rhinos are still relatively numerous, such as Kenya, wildlife specialists must race to get them to safety before they are killed, their horns cut off to sell for dagger handles and oriental medicine.

Time is running out. Throughout sub-Saharan Africa, a tidal wave of poaching has swept southward, reducing the continent's two rhino species, the white and the black, to just over 8,500 individuals. In Asia, where the continent's three rhino species were already driven to the brink of extinction by the beginning of this century, the animals are still under attack by poachers; today they number fewer than 2,500.

These figures add up to the stark fact that no more than 11,000 rhinos of all five species exist today, compared to some 100,000 just one human generation ago. Populations have sunk so drastically that, just 13 years from now, the next century may dawn on an Earth without rhinos. At best, say wildlife experts, managers may be forced to reduce the survivors to the virtual status of domestic animals. "The poaching pressure on rhinos has reached an unprecedented level," says John Hanks, projects manager of the World Wide Fund for Nature (WWF). "It is difficult to see how the few individuals remaining in natural habitats can survive unless they are captured and translocated to fenced and guarded sanctuaries."

Today, both fates—continued slaughter and relegation to stockaded sanctuaries—face rhinos around the

**A victim of poachers who cut off its horns, a black rhino (above) is left to rot in a Kenyan reserve. Rhino horns (right, also in Kenya) are in heavy demand for use in Asian medicines, and illicit profits are huge. As a result, rhino numbers worldwide have recently dropped from 100,000 to 11,000.**

PETER DINEY/BRUCE COLEMAN LTD



# In Africa, A wave of poaching

**H**orn hunters have swept southward within the past 15 years, reducing the continent's two rhino species, the white and the black, to just over 8,500 individuals. The white or "square-lipped" rhino, second-largest land mammal on Earth, now numbers just under 4,000; reportedly a mere 17 members of its northern subspecies remain. The slightly smaller, darker black rhino once ranged throughout Africa's savannas. Some 4,500 survive.

world, as the following species-by-species rundown of their status illustrates:

**White rhino:** Weighing as much as two and a half tons and standing six feet at the shoulder, this placid grazer is second only to the African elephant as the largest living land mammal. It is not white in color but gray; the name may be a corruption of the word for "wide" used by early Dutch settlers to describe the broad, square lips that the animal uses to feed on grass.

There are two subspecies. The northern white once ranged from Chad to Sudan. As recently as 1980, the population was estimated to be 1,000, but massive poaching has left only 17 known individuals, all confined to the Garamba National Park in northeastern Zaire, where they are closely guarded.

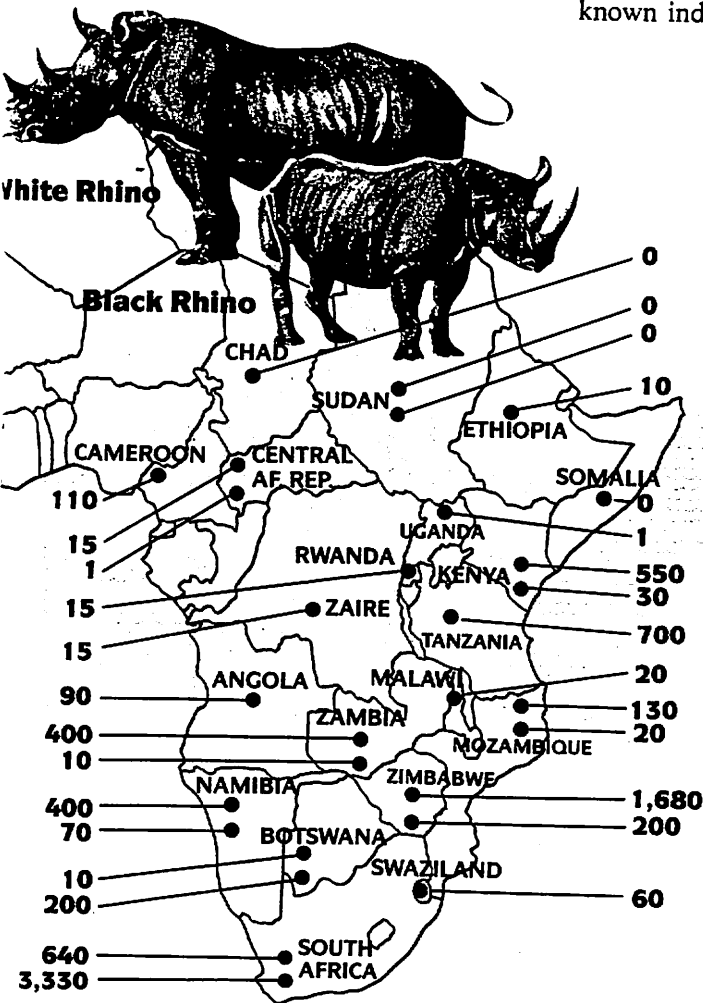
The southern white rhino, distinguished from its northern cousin by a concave forehead, was once numerous and widespread throughout southern Africa. When Europeans arrived, they slaughtered so many of the animals that by the 1890s biologists had declared the species extinct. Today, however, the southern white is one hopeful sign that rhinos can be saved. Several survivors discovered in Natal, South Africa, were vigorously guarded against poachers; the race now numbers under 4,000. Many have been translocated to reserves elsewhere in Africa and to zoos around the world.

**Black rhino:** No more black than the white is white, this species is colored a slightly darker gray. The animal, which can weigh as much as a ton and a half, is a browser with long, mobile upper lips that can strip leaves from trees and plants. The species once numbered in the hundreds of thousands and ranged the African savannas from south of the Sahara to South Africa. Now a

mere 4,500 survive in zoos and reserves. **Great one-horned rhino:** This two-ton beast has skin folds with rivetlike growths that make it look armor-plated. A dweller of marshes, the great one-horned once spread across the north of the Indian subcontinent. By the beginning of the 20th century, only a few hundred survived in the marshy belt along the foothills of the Nepalese Himalayas and in northern Bengal and Assam in northeast India. Today, a reserve in Assam is the main stronghold of the species, with a population of some 1,200 rhinos. Another 350, owned by the king of Nepal, live in the Royal Chitwan National Park under guard of the Nepalese Army.

**Javan rhino:** This species resembles the great one-horned rhino, except that it is slightly smaller. A century ago, it lived in India and continental Southeast Asia, as well as on the island of Java. It would almost certainly have been extinct today—victim of poaching and losses of habitat—but for the efforts of the Indonesian government, backed by the World Wide Fund for Nature, to save a population of about 50 in western Java. **Sumatran rhino:** The most mysterious of all the rhinos, this somewhat hairy creature—reminiscent of its distant relative, the extinct woolly rhino—is the smallest member of the family, weighing about as much as an average horse. Adapted to dense hill forests, the animal is so secretive that one of its leading authorities, Swiss biologist Markus Borner, saw only a single individual during two years' rhino research in Indonesia—when the animal walked unexpectedly into his camp one evening. The total population probably falls between 500 and 900, mostly in Sumatra. Malaysia has between 50 and 80, and there are a few in Burma. Scientists suspect that several may also exist in isolated parts of Thailand and Indochina.

Each of these species helps feed the clandestine market for rhino horn. The largest and most stable demand is in Asia, where traditional pharmacists sell horn to relieve headaches and heart trouble, to cleanse the liver and pancreas, and as an ointment for skin diseases. "I believe that reliance on rhino horn as medicine is probably more of a long-term threat to the continued existence of rhinos than anything else," declares Esmond Bradley Martin, a rhino conservationist who works with a



SOURCES: ORYX, WWF MAP BY MedSciArtCo



**C**aptured for its own good, a black rhino is pushed into a shipping crate at Etosha Park in Namibia for removal to a more secure area (left). Armed with automatic rifles, poachers in Africa often operate in parks and reserves.

**A** belligerent giant, the black rhino is surprisingly mobile (below) for an animal that can weigh a ton and a half. The species once numbered in the hundreds of thousands from the edge of the Sahara to South Africa.





Like an armor-plated tank, a great one-horned rhino wallows in a marsh in the Indian subcontinent (left). Only a few hundred survived at the beginning of this century, but numbers are up today in India and Nepal.

About 50 Javan rhinos (below) remain today, but only because of efforts to curb poaching in Indonesia. The species, which looks like a small-scale version of the great one-horned, is now found only in western Java.

Sumatran rhino



variety of international organizations.

However, it was another type of demand that precipitated the recent poaching onslaught. Martin discovered the source when trying to find out why so many rhinos had been killed in Kenya during the 1970s. Old trade records led him to Sana'a, now capital of the Yemen Arab Republic (North Yemen) on the Arabian shore of the Red Sea. There he found large numbers of artisans busily carving rhino horn for the handles of daggers, locally called "jambias."

"There was a huge demand for these daggers from Yemenis earning big money in neighboring Saudi Arabia during the oil boom," he explains. Between 1970 and 1979, Yemenis' per-capita income increased more than six-fold. Their ability to buy the prestigious knives led to soaring demand for raw horn, and the price rocketed 2,000 percent within the decade.

Inevitably, buyers of horn for the Chinese market had to compete. Even today, when the bottom has gone out of the petroleum market, prices remain high throughout the East. Asian horn, the most valued, sold for more than \$13,000 a pound retail in Taiwan in 1985, according to Martin. In Singapore, a pound of African horn fetched \$5,000.

African hunters get only a tiny fraction of such sums, but a single horn can still bring the equivalent of a year's normal earnings, and so there are plenty willing to risk a small fine and perhaps a short prison sentence in the unlikely event that they are caught. Many poachers have been able to acquire modern automatic weapons sent to Africa by developed nations to equip new armies and guerrilla movements. The poachers' prime hunting grounds are national parks and wildlife reserves, where often little more than a tiny band of guards exists to fend off any attack. These defenders are usually equipped with a pathetic arsenal consisting mostly of old rifles and shotguns.

Kenya was the first to be struck by the rhino killers during the early '70s. The poaching wave then moved south to Tanzania's Selous Game Reserve, and to another big concentration in Zambia's Luangwa Valley. Uganda's rhinos were wiped out during Idi Amin's regime, when protection of wildlife reserves collapsed, and in the aftermath when Tanzanian troops moved in. At the same time, the rhinos in Sudan,

Chad and the Central African Republic fell to poachers.

Asia has not fared much better. When political upheavals disrupted anti-poaching operations in India between 1982 and 1985, at least 233 great one-horned rhinos in Assam—a fifth of the state's population—were shot illegally. Even the Sumatran rhino, despite its rarity and secretive habits, is still being heavily poached, according to Martin: "A businessman in Bangkok told me that he had been receiving one or two full carcasses a year, for which he paid between \$3,800 and \$7,600 each."

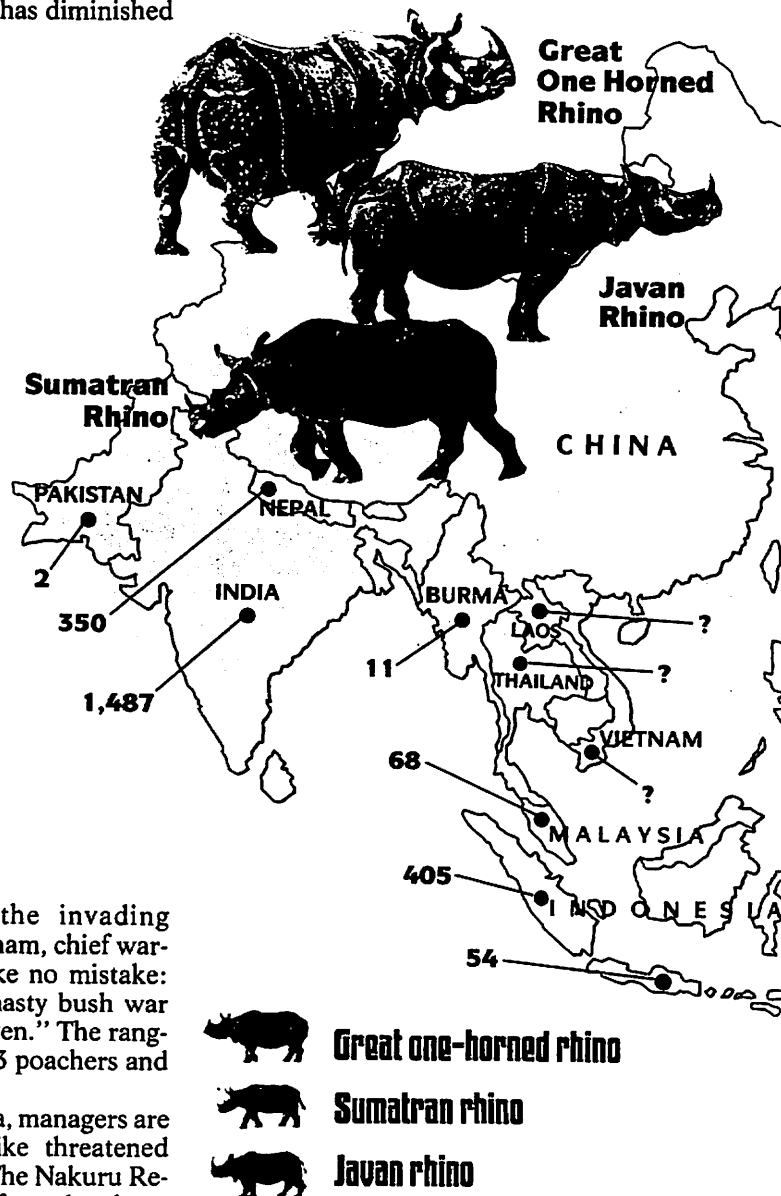
During the 1970s, the tonnage of horn being traded showed that as many as 8,000 rhinos were killed yearly. Observers say the trade has diminished considerably since then — but only because the entire remaining world population is little more than the former yearly take.

Nonetheless, the poachers still kill rhinos where they can find them, and officials must take drastic measures to protect the survivors. A substantial population remained on the southern shores of Zimbabwe's Zambezi River until 1984; then poachers crossed the river from Zambia and slaughtered more than 100 rhinos. In early 1985, Zimbabwe's wildlife department, which is much better equipped than the average African agency, struck back with "Operation Stronghold"—a shoot-on-sight battle against the invading poachers. Says Glen Tatham, chief warden in the region, "Make no mistake: we are fighting a very nasty bush war here, with no quarter given." The rangers have already killed 13 poachers and captured 11.

In both Africa and Asia, managers are moving rhinos about like threatened pieces in a chess game. The Nakuru Reserve in Kenya is being fenced to keep out intruders. In India, rhinos from Assam have been translocated to re-

## In Asia, Protective Custody

Like threatened pawns in a desperate chess game, some of Asia's 2,500 remaining rhinos are being moved out of the line of poachers' fire. In India, great one-horned rhinos are being taken to where the threat of poaching is light. A few of the 50 living Javan rhinos may also be translocated. Meanwhile, zoos hope to breed the Sumatran rhino for the first time to boost the current population of fewer than 900.



SOURCE: NICO VAN STRIEN, PHD THESIS, 1985. WWF MAP BY MedSciArtCo



stock former rhino habitat in Dudhwa, near the border with Nepal, where poaching pressures are lighter. And in Indonesia, officials are considering moving some Javan rhinos from Java to another site—probably in Sumatra—to reduce the risk of the species dying out from disease or other catastrophe.

The switches are not made easily. The effects of tranquilizing drugs or the shock of capture have killed a number of rhinos during translocations in Africa and India. "Despite these risks," maintains WWF's John Hanks, "the situation for rhinos is now so critical that they have to be accepted in order to get as many as possible in safe areas."

Still, Hanks concedes, another important way to save the animals in the long term is to stop the demand for horn. The Convention on International

Trade in Endangered Species of Wild Fauna and Flora (CITES), ratified by more than 90 nations, bans international trade in rhino products. But enforcement is sometimes weak. Horns can be slipped through

controls in suitcases or hidden in legitimate commercial shipments.

The horn trade has become the personal battle of Esmond Martin. In 1985, supported by a variety of conservation organizations, Martin embarked on a one-year tour of trading centers. In China's traditional medicine shops, he found that a pound of horn sold for more than \$8,500. In Taipei, Taiwan's capital city, and in Osaka, Japan, three quarters of the medicine shops offered rhino horn for sale. Singapore and Thailand served as major exporters and importers.

Through intense lobbying of high government officials, Martin has been instrumental in getting bans in countries that used to be major horn importers—including Taiwan, South Korea, Macao and Hong Kong, as well as the Yemen Arab Republic.

Martin says the biggest sign of success is the price of rhino horn, which has been holding steady despite the plummeting supply. This means there must have been a decrease in demand in countries such as North Yemen. "The vast majority of people who wanted and had the means to buy daggers with rhino horn handles have them," he explains,

**A symbol of hope for the future, a young black rhino at Ngorongoro Crater in Tanzania nudges its embattled mother. Conservationists are working to slow the demand for horn. If they succeed, rhinos may yet survive the century.**

"and the young people's demand is now not so great because of increased westernization in the country."

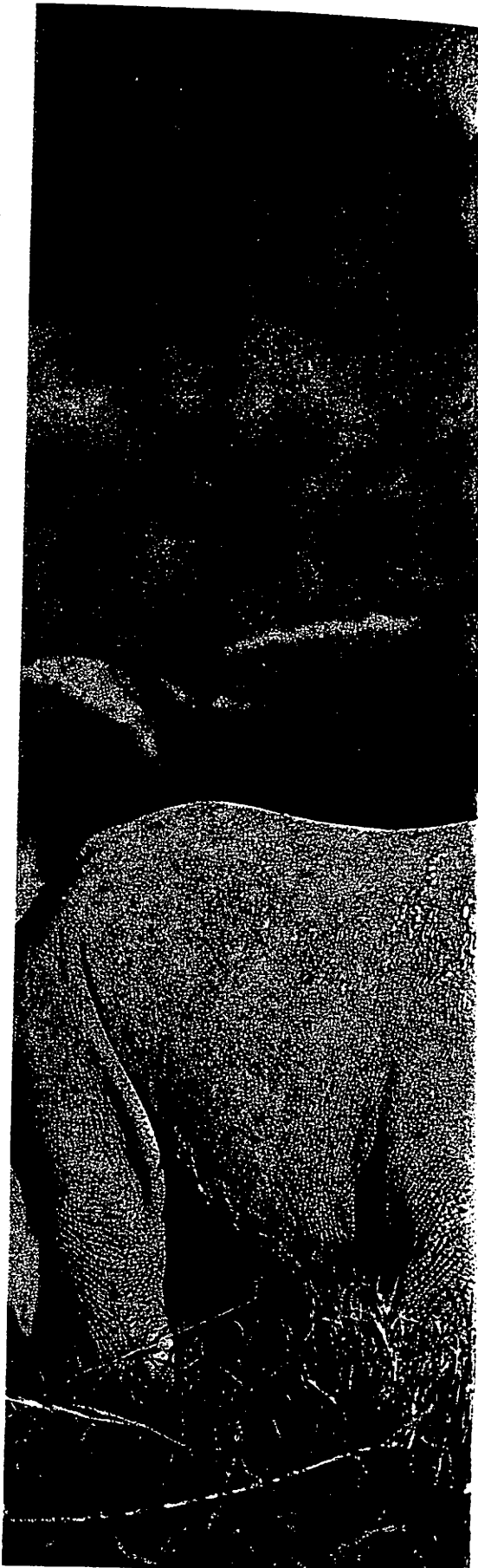
There are also some signs of hope where the animals live. Rhinos have bred so successfully in Nepal's Chitwan National Park, for example, that some have been moved to another reserve to the west to reestablish old habitat. And some of the translocations in India were conducted as much because numbers had increased enough to reseed former range as to escape poachers.

Officials are even hopeful that the elusive Sumatran rhinos can be bred for eventual release in the wild. Some are being trapped for captive breeding programs sponsored by the Indonesian and Malaysian governments as well as American and British zoos. Hanks thinks captive breeding might spell hope for rhinos in general. "The southern white rhino was brought back from the brink," he observes. "That shows it can be done, and we must hope that one day other species can be similarly restored."

As yet, however, no Sumatran rhinos have been bred successfully in captivity. And the other species, all of which are breeding in zoos, could be seriously endangered if wild rhinos are reduced significantly in number. The loss of genetic diversity alone, say some authorities, might cause rhinos to die out unless large populations could be bred and sustained indefinitely.

Esmond Martin, for one, thinks the battle is far from over. "A resurgence in demand could spell the final doom for rhinos outside zoos and small holding grounds. Would the five species survive under such conditions?"

*Peter Jackson, a frequent contributor to this magazine, is a member of the Species Survival Commission of the International Union for Conservation of Nature and Natural Resources (IUCN). The reporting on poaching in Zimbabwe's Zambesi River Valley was contributed by writer Marilyn Achiron and correspondent Ray Wilkinson, of Newsweek magazine.*



AKIRA UCHIYAMA

